**UNIVERSITY OF PORT HARCOURT**

**INSTITUTE OF NATURAL RESOURCES, ENVIRONMENT AND SUSTAINABLE DEVELOPMENT (INRES)**

***MEMORANDUM***

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| ***From:*** Director INRES***Ref:*** UPH/INRES/51***Date:*** January 05, 2023 | ***To:*** DVC R&D |

**RE: SUBMISSION OF ANNUAL REPORT OF INRES TO THE OFFICE OF THE DEPUTY VICE CHANCELLOR (RESEARCH AND DEVELOPMENT)**

Please find attached the report above refers including a rewritable CD containing the annual report.

**PROFESSOR A. I. HART**

UNIVERSITY OF PORT HARCOURT

INSTITUTE OF NATURAL RESOURCES ENVIRONMENT AND SUSTAINABLE DEVELOPMENT (INRES)

**ANNUAL REPORT**

**INTRODUCTION**

The activities of the Institute of Natural Resources, Environment and Sustainable Development (INRES), University of Port Harcourt for the period under review 2021/2022 session is presented below.

The Director of INRES is Professor A. I Hart while the Assistant Director is Richmond U. Ideozu (PhD).

**ACTIVITIES OF INRES 2021 – 2022 SESSION**

The activities at INRES began this session with the following

1. Lectures (PGD, MSc and PhD)
2. Seminars within INRES (PhD)
3. Online Lectures (PGD, MSc and PhD)
4. Graduate School defence by our students (PhD and MSc candidates)
5. Internal defence by our PGD students
6. Academic Board meetings for approval of graduate results

**ACHIEVEMENTS**

1. Accreditation by NUC through ACEFOR
2. Acquisition of a New Android Screen (AAZ) donated by ACEFOR
3. Internet Facilities donated to INRES by ACEFOR
4. INRES students and staff attended conferences
5. We currently have two international students – a PhD candidate from Trinidad and Tobago and an MSc candidate from Gambia.

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1. We played host to Professor Jimmy Adegoke, PhD, Carnegie African Diaspora Fellow, Institute for the Natural Resources, Environment and Sustainable Development (INRES), University of Port Harcourt, a Professor of Geosciences, Principal Investigator, Laboratory for Environmental and Atmospheric Processes (LEAP), Department of Earth and Environmental Sciences (EES), University of Missouri-Kansas City. United States of America (July – September 2021).
2. A training workshop was organised by Professor Jimmy Adegoke, PhD, Carnegie African Diaspora Fellow, in conjunction with INRES. The training workshop was on Advanced Satellite Remote Sensing Vital Platform for Coastal resilience Monitoring and Integrated Vulnerability Assessment held August 12 – 14, 2021. At the end of the training workshop certificates was issued to the participants.

**RESEARCH PUBLICATIONS INNOVATIONS**

The following are some research works has been published so far.

1. Akpan, U. E., Obafemi, A.A and Tanee, F. B. G. 2021. Public Perception of the Invasiveness of Nypa Fruitians in Stubbs Creek Forest, Akwa Ibom State Nigeria. *Nigerian Journal of Environmental Science Technology (NIJEST) 14 (1): 135 -141.*
2. [Joseph E Agbaji](https://pubmed.ncbi.nlm.nih.gov/?term=Agbaji+JE&cauthor_id=33094269) [Eucharia O Nwaichi](https://pubmed.ncbi.nlm.nih.gov/?term=Nwaichi+EO&cauthor_id=33094269) and, [Gideon O Abu](https://pubmed.ncbi.nlm.nih.gov/?term=Abu+GO&cauthor_id=33094269). (2020)Optimization of bioremediation-cocktail for application in the eco-recovery of crude oil polluted soil. AAS Open Res. D. O. I: 10.12688/aasopenres.13028.1.
3. O. S. E. Opete, L. C. Leo and A. I. Hart. (2019). Acute Toxicity of *Tilapia guineensis* Fingerlings Exposed to Treated Produced Water from the Niger Delta Region of Nigeria. *International Journal of Research in Biosciences (IJRSB). 7 (12), 8 – 21.*
4. Abraham, Chidozie Nicholas, Godwin J. Udom and Kingsley C. Patrick-Iwuanyanwu. (2020). Hematotoxic Effect of Water Soluble Fraction of Bonny Light Crude Oil in Wistar Albino Rats. Asian *Journal of Research in Biochemistry. 6 (1): 1 – 5.*
5. Abraham, Chidozie Nicholas, Godwin J. Udom and Kingsley C. Patrick-Iwuanyanwu. (2020). Nephrotoxicological Water Soluble Fraction of Bonny Light Crude Oil in Wistar Albino Rats*. International Journal of Biochemistry Research and Review. 28 (4): 1 – 9.*
6. Okere J. K., Azorji J. N, Iheagwam S. K, Nwachukwu, C.U. and Emeka J. E. (2021). Evaluation of Two Major Dumpsites as Potential Sources of environmental Pollution in Owerri, Imo State, Southeast Nigeria*. International Journal of Research and Innovation in Applied Science (IJRIAS) |Volume VI, Issue VI, June 2021|ISSN 2454-6194*
7. Okere Kelechi Justin, Abu Gideon O., Ndukwu Benjamin (2018). Estimation and characterization of municipal solid waste in Nekede landfill, Owerri metropolis, Nigeria*. International Journal of Engineering and Applied Sciences (IJEAS) ISSN: 5 (3). 2394-3661*
8. Eseyin, O. O. (2020). Assessment of Heavy Metals Concentration and Physicochemical Parameters in Leachate and Borehole Water near Engineered Dumpsites in Port Harcourt Nigeria*. International Journal of Scientific and Engineering Research. 11 (2) 335 -349.*
9. Ikisa, K. G. Babatunde, B. B. and Hart, A. I. (2019) Acute Toxicity of Benzalkonium Chloride Mixture with Treated Produced Water to Juveniles of Freshwater Tilapia- *Oreochromis niloticus*. Journal of Science, Environment and Management 23 (6) 1169-1174
10. Ikisa, K. G. Babatunde, B. B. and Hart, A. I. (2019) Histopathological Variations in Gills, Liver and Kidney of Nile *Tilapia-Oreochronis niloticus* exposed to Benzalkonium Chloride Mixture with Treated Produced Water. Journal of Science, Environment and management. 23 (6) 1181-1187
11. O. S. E. Opete, L. C. Osuji and A. I. Hart (2019) Bioaccumulation of Heavy Metals and Hydrocarbon by *Clibanarius africanus* (Hermit Crab) Exposed to Produced Water. Journal of Ecology and Environmental Science, 3, 25-32
12. O. S. E. Opete, L. C. Osuji and A. I. Hart (2019) Acute Toxicity of *Tilapia guineensis Finerlins* Exposed to Treated Produced Water from the Niger Delta Region of Nigeria. Internal Journal of Research Studies in Biosciences, (7) PP8-21
13. Udoma-Michaels, D; Ndukwu Benjamin C. & Obafemi, Andrew. (2000 and 2017) Assessment of Vegetation Index of Stubbs Creek Forest Reserve in Akwa Ibom State, Nigeria between 2000 and 2017.
14. Ekuwuluo M. O. and Ebiana C. A. (2018) Application of Chemical Oxidants in the Remediation of Petroleum Products Contaminated Ground Water. International Journal of Scientific and Research Publications, (8) 2250-3153.
15. Okoro Goodluck, Nnodu, V. C, Ekwuluo, M. O. (2020) Evaluation of the Impacts of Hydrocarbon Pollution on the Health of Residents of Oil Producing Communities. International Research Journal of Innovations in Engineering and Technology (IRJIET) 4(12), 22-27.
16. Berezi O. K., Obafemi A. A. and Nwankwoala H. O. (2019) Flood Vulnerability Assessment of Communities in the Flood Prone Areas of Bayelsa State, Nigeria (2019) International Journal of Geology & Earth Science. 5, 2395647X
17. Nyeche V. W; Obafemi A. A. and Ndukwu, B. C. (2019) Assessment of Climate Change Resilience Strategies in some Selected Industrial Areas in Rivers State, Nigeria. International Journal of Engineering and Science 8, 19-27.
18. George Daniel Smile, Aduabobo Ibitoru Hart and Leo Chigbu Osuji (2021) Evaluation of Heavy Metals in Plants from Previously Remediated Sites in Niger Delta, Nigeria. Journal of Global Ecology and Environment. 13 (2) 2454-2644
19. Folake M. Ogaji, Andrew Obafemi, Aroloye O. Numbere, and Daprim S. Ogaji

 (2019) Assessment of Particulate matter, volatile organic compounds, and suspended solids in some settlements around Port Harcourt Metropolis, Rivers State Nigeria.

1. Folake M. Ogaji, Andrew Obafemi, Aroloye O. Numbere, Daprim S. Ogaji (2022) Geospatial Analysis and Modeling of Indoor Air Quality in Some Residential Areas in the Niger Delta, Nigeria.
2. Njoku Kingsley Eze, Richmond Uwanemesor Ideozu, Kiamuke Itiowe, Igbringie, S and Nosa, Kingston Kurah (2022). Geochemistry, Mineralogy and Provenance of Shales in Owutu Area of Afikpo Basin Southeastern Nigeria*. Equity Journal of Science and Technology. 9 (11): 46 – 54.*
3. Agbajie, T. Y, Ideozu. R. U and Chiazor, F. I. (2023). Stochastic Modellng of Spatial Variability of Petrophysical Properties of Zingo Field Niger Delta Basin Nigeria. European Journal of Applied Sciences. 11 (1): 1 -15.

**CHALLENGES**

1. Increased running cost of INRES as a result of the current economic realities
2. Getting students to pay school charges to INRES because of the current economic realities is putting a lot of strain on our finances.
3. Accommodation space is grossly inadequate, INRES needs space to develop infrastructure to meet the ever increasing student population, laboratories and office accommodation.

**RECOMMENDATIONS**

1. University Management should approve a site for INRES to develop infrastructure for classrooms, laboratories and office spaces.
2. The University Management should sustain the policy of part payment of school charges/fees

**CONCLUSIONS**

INRES is poised to surmount all challenges with renewed vitality pursuing the vision of the founding fathers, aims and objectives